Biological Laboratory
Cold Spring Harbor
Long Island, New York
August 20, 1946

Prof. J.B.S. Haldane, F.R.S.
Dept. Genetics
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Dear Haldane:

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I am sorry that I have delayed so long writing this letter, and have been keeping your manuscript. When I came back there was here first the symposium and then a phage course for three weeks, and neither left sufficient leisure time. The symposium was very exciting, as you may have heard. A number of people thought they had indications of sex life in bacteria. If bacteria have sex it is entirely reasonable that it should be discovered now since now for the first time people are doing experiments with genetically marked strains. The most exciting experiments were some done at Yale in Tatums laboratory by a young fellow Lederberg. He first secured two double double mutants of a strain of E.coli (X-ray induced). Each of the double mutants had two growth factor deficiencies. One mutant was deficient for A and B, say, and the other for C and D. Then he grew these two mutants together in broth. Then he plated the mixture out on basal medium and obtained a few "prototrophs" i.e. colonies of bacteria requiring no growth factor. He seemed to have done most of the obvious control experiments. He has since tried to do the same thing with our strain "B". He did secure two double ceficient mutants, but did not get any prototrophs when growing them together.

Luria has been trying to do a similar experiment with mutants of the phage resistance type. He takes, say, B/1/2 and B/3/4 and grows them together and then tests to see whether he has any B/1/2/3/4. So far no luck.

With best regards

sincerely yours

M.Delbruck

JUL 22 1974

This excerpt is taken from a letter commenting on a ms. on the statistical theory of mutation by Haldane that I had borrowed (?from Delbruck) and had photocopied. Most of the letter concerned detailed mathematics. I assumed this material was left with it by inadvertence.

Haldane